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EXAMINER

SONG, HOSUK

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 04/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/503,282

Applicant(s)
HUYNH et al.

Examiner
Ho S. Song

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2131



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 10, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3,5-7,15,22 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al.(US 5,774,551).

In claims 1,5, Wu discloses a control unit having a data input bus (fig.1). Encryption processing unit in (col.3, lines 58-62). First and second authentication processing unit in (col.8, lines 61-66). A local data bus, independent of the data input bus to the control unit, coupling the control unit to each of the encryption and authentication processing units and a second data bus from the encryption unit to each authentication unit, including a data bus from the first authentication processing unit to the second authentication processing unit in (fig.1 #115,109,123 and col.3, lines 56-66).

In claims 2,6, Wu disclose wherein data input bus of the control unit is coupled to a processor bus and each of encryption and authentication processing units comprises a data input bus coupled to the processor bus in (fig.1,#109,123).

In claim 7, Wu discloses first authentication unit and second authentication processing unit in (col.8, lines 61-65).

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In claim 3, Wu discloses data input bus of the control unit is coupled to a processor bus and each of encryption and authentication processing units comprises a data input bus to the processor bus and means for reading and writing data on the processor bus in (see fig.3).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4,8-21,15,22,23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al.(US 5,774,551).

In claims 4,8, Wu discloses all the limitations above. However, Wu does not disclose second data bus comprising a daisy-chain connection between the encryption and authentication processing units. The examiner takes Official notice that chain is well known in the art. It is widely used in order to eliminate conflicting requests to use the channel(bus) to which all the devices are connected, each device is given a different priority.

In claims 9,16,23,Wu discloses encrypting and authenticating a first packet and discloses two authentication services connected to the encryption unit by a data bus in (fig.1 and col.15, lines 53-67).. Wu does not specifically disclose performing encryption on a first data packet and

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after completion of the encryption of the first data packet, performing authentication of the first packet and performing encryption of a second data packet prior to completion of authentication of the first data packet. The examiner takes Official notice that encrypting a second packet before authentication is well known in the art. For example, parallel encryption scheme where first and second packets are encrypted at the same time where second packet does not wait for first packet to be authenticated thus allowing faster encryption/authentication process when transmitting over the network or encrypting a second packet before first packet is authenticated or encrypting a second packet while authenticating first packet eliminates waiting time thus enhances encryption /authentication processing speed.

In claim 10,17, Wu discloses step of performing a second authentication on the first data packet of data in (col.7, table 1).

In claims 11-14,18-21, Wu discloses appending data to first authentication and second authentication in (col.3, lines 56-66).

In claims 24-28 see claims rejection 10-14 above.

In claims 29-31 see claims rejection 9,23 above.

In claims 15,22, Wu discloses an encrypting a first packet with an encryption processing module and authenticating the encrypted first data packet with a first authentication processing module in (fig.1 and col.col.3, lines 56-62; col.15, lines 54-67). Wu does not specifically discloses encrypting a second data packet with the encryption processing module while authenticating the first data packet with the first authentication processing module connected to

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the encryption processing module by a data bus and authenticating the second data packet with the first authentication processing module. Official notice is taken that this is well known in the art, such as prioritizing and parallel processing method. One of ordinary skill in the art would be motivated to use FIFO or parallel processing method in order to increase data efficiency, speed and minimize data errors thus providing efficient throughput system for managing high speed network.

Response to Applicant's Arguments

4. Applicant has amended claims 1-7, 9, 15, 16, 23, and 29-31.
5. Claims 15 and 22 rejected under USC 102(b) are withdrawn in view of applicant's arguments. See new rejection above.

Applicant argues that Wu's patent does not teach a packet processor comprising buses between a plurality of processing units that process data independently of the main processor and furthermore Wu does not teach a local data bus, independent of the data input bus to the control unit, coupling the control unit to each of the encryption and authentication units. Nor does Wu teach a second data bus from the encryption processing unit to each authentication processing unit, including a data bus from the first authentication processing unit to the second authentication processing unit. ***In response:*** first, applicant's arguments on "Wu does not teach.....plurality of processing units that process data *independently of the main processor* " it is unclear as to what the main processor applicant is referring to. Is applicant referring to main processor in a control

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unit in claim 1? or a computer processor?. Claim 1 is silent on main processor that process data independently. Second, Wu does teach local data bus, independent of the data input bus to the control units. Fig.1 clearly shows input data bus coming in from #137 and 135 and local data bus #115(CPU) connected to addressable memory(#103) where it is couple with encryption and authentication units in(#109 authentication services and encryption unit disclosed in col.3, lines 56-62 and fig.1 and col.15, lines 54-63). Wu discloses first and second authentication processing units in (col.8, lines 61-65). ***Applicant argues that*** in amended claim 2, Wu does not teach “said data input bus of the control unit is coupled to a processor bus and each of said encryption and authentication units comprises a data input bus coupled to the processor bus”. ***In response:*** Wu teaches data input bus of the control unit in (fig.1 from #139 is connected to CPU #115) and coupled to a processor(either #135 or #101). Wu teaches authentication processing units(#109 in fig.1) comprises a data input bus coupled to the processor bus(fig.1#115 and #103). ***Applicant further argues that*** Wu does not teach that a data input bus of the control unit is coupled to a processor bus and each of said encryption and authentication processing units comprises a data input bus coupled to the processor bus. ***In response:*** the examiner disagree; Wu’s patent does discloses these features in (fig.1). ***Applicant argues that in claim 3,*** Wu does not disclose each of encryption and authentication processing units comprises a data bus to the processor bus and means for reading and writing data on the processor bus in fig.3. ***In response:*** reading, writing process by fig.3, #109 includes authentication and also encrypt the user’s other authentication tokens for other secondary authentication services. See (col.3, lines 58-62) and they’re connected

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by a bus. *Applicant argues that in claims 15 and 22*, Wu does not teach encryption or authentication modules which process data independently of the main processor. Nor does Wu teach encrypting a second packet with the encryption processing module while authenticating the first data packet with the first authentication processing module connected to the encryption processing module by a data bus. *In response*: see new rejections presented above. *In claims 4,8, Applicant argues that* the examiner cites no references that teach or suggest such a daisy chain connecting encryption and authentication processing unit. *In response*: the examiner provides a reference(US 5,987,126) that teaches daisy chain in an authentication/encryption environment. *Applicant argues that* Wu does not teach or suggest encryption and authentication processing units that process data independently of the main processor. *In response*: see claim 1 response above. *Applicant argues that* Wu does not teach or suggest an authentication processing unit connected to an encryption processing unit by a data bus. *In response*: the examiner disagree, Wu discloses that authentication services may include encrypted key based menchaism such as Diffie Hellman,RSA,Kerberos etc where authentication service and encryption unit communicates each other. Also token(encryption unit) communicates with authentication unit. It is inherent that theses two services are connected each other by means of hardwire lines in order to communicate each other. Applicant argues that Wu does not teach or suggest performing encryption on a first data packet and after completion of the encryption of the first data packet, performing authentication of the first data and performing encryption of a second data packet prior to completion of authentication of the first data packet. *Applicant argues that in claims*

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9,16, Wu does not teach or suggest performing encryption on a first data packet and after completion of the encryption of the first data packet, performing authentication of the first data and performing encryption of a second data packet prior to completion of authentication of the first data packet. *In response:* again this is well known FIFO data processing method which is addressed in above response. Applicant argues that in claims 24-31, Wu neither discloses or suggests the claimed invention. In response: the examiner disagree, see rejections above.

6 Any inquiry concerning this communication should be directed to Ho S. Song at telephone number (703)305-0042. The examiner can normally be reached on Tuesday through Friday from 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gail Hayes can be reached at (703)305-9711.

Any inquiry of a general nature or relating to the status of this application or preceding should be directed to the Group receptionist, whose telephone number is (703)305-3900.

Ho Song

Gail Hayes

GAIL HAYES
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